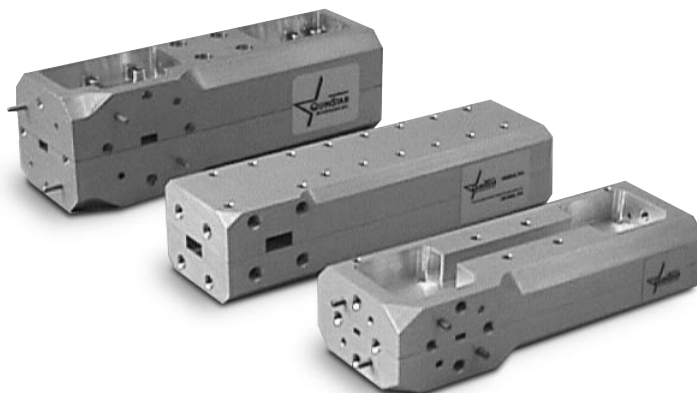


Characteristics

- ◆ Fullband Coverage
- ◆ Excellent Coupling Accuracy
- ◆ Low VSWR
- ◆ High Directivity



Product Description

QuinStar Technology's **QJG** series of **precision general purpose directional couplers** cover the frequency range of 18 to 170 GHz in nine waveguide bands. They are available in 3 and 4 port configurations with coupling values of 3, 6, 10, 20, 30 and 40 dB. They are constructed with a rugged splitblock mechanical design for long-lasting durability to maintain their coupling value.

Precision general purpose directional couplers are ideal devices for sampling or inserting RF energy in a waveguide

transmission line without affecting the transmitting signal. They prove especially useful in applications such as RF power and signal reflection measurements in test systems. The directivity, insertion loss, and coupling flatness characteristics make these directional couplers useful for a wide range of laboratory requirements and subsystem applications.

Specifications

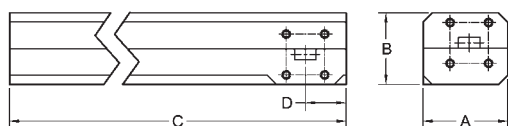
FREQUENCY BAND	K	Ka	Q	U	V	E	W	F	D
Frequency Range (GHz)	18-26.5	26.5-40	33-50	40-60	50-75	60-90	75-110	90-140	110-170
Waveguide Size	WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10	WR-8	WR-6
Coupling Values (dB) (Nominal ± 1.0 dB at center frequency)	3, 6, 10, 20, 30 and 40 (For 3 and 6 dB, please consult factory for all bands)								
Coupling Flatness ($\pm$ dB typ)	0.8	0.8	0.8	0.8	0.8	0.8	0.9	1.0	1.0
Directivity (dB typ) ¹	3, 6 dB couplers	20	20	20	20	20	20	20	20
	10, 20 dB couplers	25	25	25	25	25	25	25	25
	30, 40 dB couplers	15	15	15	15	15	15	15	15
Insertion Loss, dB ²	0.7	0.7	0.7	0.7	0.8	1.4	1.4	2.0	2.0
VSWR, Main Line (max)	3, 6 dB couplers	1.2:1	1.2:1	1.2:1	1.2:1	1.2:1	1.2:1	1.2:1	1.25:1
	10, 20, 30, 40 dB couplers	1.1:1	1.1:1	1.1:1	1.1:1	1.2:1	1.2:1	1.2:1	1.25:1
VSWR, Secondary Line (max)	3, 6 dB couplers	1.2:1	1.2:1	1.2:1	1.2:1	1.2:1	1.25:1	1.25:1	1.3:1
	10, 20, 30, 40 dB couplers	1.1:1	1.1:1	1.1:1	1.1:1	1.2:1	1.25:1	1.25:1	1.3:1

Other waveguide sizes are available.

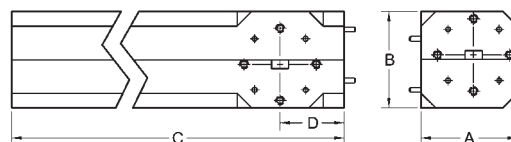
¹ Directivity is the difference between power levels at the coupled port when input and output ports are interchanged.

² Insertion loss is defined as the power loss in excess of the loss due to coupling.

Outline Drawings/Mechanical Specifications



WR-42 and WR-28



WR-22 through WR-6

FREQ. BAND	WAVEGUIDE SIZE	FLANGE PATTERN	OUTLINE DIMENSIONS, inches/mm			
			A	B	C	D
K	WR-42	UG-595/U	1.40/35.6	1.10/27.9	7.75/196.8	0.44/11.2
Ka	WR-28	UG-599/U	1.10/27.9	0.93/23.6	6.21/157.7	0.53/13.5
Q	WR-22	UG-383/U	1.25/31.8	1.25/31.8	5.50/139.7	0.83/21.1
U	WR-19	UG-383/U	1.25/31.8	1.25/31.8	5.50/139.7	0.83/21.1
V	WR-15	UG-385/U	1.20/30.5	0.834/21.2	3.84/97.5	0.60/15.2
E	WR-12	UG-387/U	1.20/30.5	0.825/21	3.4/86.4	0.60/15.2
W	WR-10	UG-387/U	1.20/30.5	0.80/20.3	3.24/82.3	0.60/15.2
F	WR-8	UG-387/U	1.20/30.5	0.80/20.3	2.42/61.5	0.60/15.2
D	WR-6	UG-387/U	1.20/30.5	0.80/20.3	2.82/71.6	0.60/15.2

Ordering Information

Model Number **QJG -**

waveguide band designator

K = K-band
A = Ka-band
Q = Q-band
U = U-band
V = V-band
E = E-band
W = W-band
F = F-band
D = D-band

coupling value in dB

03, 06, 10, 20, 30 or 40

A B C D E 0

version

0 = standard
Z = custom

number of ports

3 = 3 ports
4 = 4 ports